3RT1065-2XB46-0LA2

Data sheet



power contactor, AC-3e/AC-3 265 A, 132 kW / 400 V Uc: 24 V DC x (0.7-1.25) PLC input 24-110 V DC 3-pole, auxiliary contacts 2 NO + 2 NC drive: electronic main circuit: busbar control and auxiliary circuit: spring-loaded terminal extended rated condition railroad IEC 60077

product brand name	SIRIUS
product designation	Power contactor
design of the product	With extended operating range
product type designation	3RT1
General technical data	
size of contactor	S10
product extension	
 function module for communication 	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
 at AC in hot operating state 	54 W
 at AC in hot operating state per pole 	18 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	1 000 V
of auxiliary circuit with degree of pollution 3 rated value	500 V
surge voltage resistance	
of main circuit rated value	8 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	690 V
shock resistance for railway applications according to EN 61373	Category 1, Class B
shock resistance at rectangular impulse	
• at DC	8,5g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at DC	13,4g / 5 ms, 6,5g / 10 ms
mechanical service life (operating cycles)	
of contactor typical	10 000 000
 of the contactor with added electronically optimized auxiliary switch block typical 	5 000 000
of the contactor with added auxiliary switch block typical	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	09/06/2016
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1
Weight	6.482 kg
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	

- during energica	40 170 °C
during operation	-40 +70 °C
during storage relative hymidity minimum	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
number of NC contacts for main contacts	0
operating voltage	
 at AC-3 rated value maximum 	1 000 V
at AC-3e rated value maximum	1 000 V
operational current	
 at AC-1 at 400 V at ambient temperature 40 °C rated value at AC-1 	330 A
— up to 690 V at ambient temperature 40 °C rated value	330 A
— up to 690 V at ambient temperature 60 °C rated value	300 A
— up to 1000 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	150 A
• at AC-2 at 400 V rated value	265 A
• at AC-3	
— at 400 V rated value	265 A
— at 500 V rated value	265 A
— at 690 V rated value	265 A
— at 1000 V rated value	95 A
• at AC-3e	
— at 400 V rated value	265 A
— at 500 V rated value	265 A
— at 1000 V rated value	95 A
at AC-4 at 400 V rated value	230 A
minimum cross-section in main circuit	
 at maximum AC-1 rated value 	185 mm²
at maximum Ith rated value	185 mm²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	117 A
at 690 V rated value	105 A
operational current	
at 1 current path at DC-1	
— at 24 V rated value	300 A
— at 110 V rated value	33 A
— at 220 V rated value	3.8 A
— at 440 V rated value	0.9 A
— at 600 V rated value	0.6 A
 with 2 current paths in series at DC-1 	
— at 24 V rated value	300 A
— at 110 V rated value	300 A
— at 220 V rated value	300 A
— at 440 V rated value	4 A
— at 600 V rated value	2 A
 with 3 current paths in series at DC-1 	
— at 24 V rated value	300 A
— at 110 V rated value	300 A
— at 220 V rated value	300 A
— at 440 V rated value	11 A
— at 600 V rated value	5.2 A
 at 1 current path at DC-3 at DC-5 	
— at 24 V rated value	300 A
— at 110 V rated value	3 A

1000 V	
— at 220 V rated value	0.6 A
— at 440 V rated value	0.18 A
— at 600 V rated value	0.125 A
with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	300 A
— at 110 V rated value	300 A
— at 220 V rated value	2.5 A
— at 440 V rated value	0.65 A
— at 600 V rated value	0.37 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	300 A
— at 110 V rated value	300 A
— at 220 V rated value	300 A
— at 440 V rated value	1.4 A
— at 600 V rated value	0.75 A
operating power	
 at AC-2 at 400 V rated value 	132 kW
• at AC-3	
— at 230 V rated value	85 kW
— at 400 V rated value	132 kW
— at 500 V rated value	160 kW
— at 690 V rated value	250 kW
— at 1000 V rated value	132 kW
• at AC-3e	
— at 230 V rated value	85 kW
— at 400 V rated value	132 kW
— at 500 V rated value	160 kW
— at 1000 V rated value	132 kW
operating power for approx. 200000 operating cycles at AC-	
4	00.1W
at 400 V rated value	66 kW
• at 690 V rated value	102 kW
short-time withstand current in cold operating state up to 40 °C	
 limited to 1 s switching at zero current maximum 	4 880 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	4 045 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	2 785 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	1 664 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	1 276 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	. , , , , , , , , , , , , , , , , , , ,
• at DC	700 1/h
operating frequency	
• at AC-1 maximum	700 1/h
• at AC-2 maximum	250 1/h
at AC-3 maximum	500 1/h
at AC-3e maximum	500 1/h
at AC-2 at AC-3e maximum	250 1/h
• at AC-4 maximum	130 1/h
operating frequency	
• at DC-1 maximum	350 1/h
• at DC-3 maximum	350 1/h
• at DC-5 maximum	350 1/h
Ratings for railway applications	
thermal current (Ith) up to 690 V	
• up to 40 °C according to IEC 60077 rated value	330 A
• up to 70 °C according to IEC 60077 rated value	265 A
Control circuit/ Control	20071
	DC
type of voltage	DC
type of voltage of the control supply voltage	DC 24 V
control supply voltage at DC rated value operating range factor control supply voltage rated value of	24 V

magnet coil at DC	
initial value	0.7
full-scale value	1.25
consumed current at PLC-control input according to IEC 60947-1 maximum	2 mA
voltage at PLC-control input	24 110 V
design of the surge suppressor	with varistor
closing power of magnet coil at DC	580 W
holding power of magnet coil at DC	3.4 W
closing delay	
• at DC	45 80 ms
opening delay	
• at DC	80 100 ms
arcing time	10 15 ms
control version of the switch operating mechanism	PLC-IN or Standard A1 - A2 (adjustable)
Auxiliary circuit	
number of NC contacts for auxiliary contacts	2
instantaneous contact	2
number of NO contacts for auxiliary contacts	2
instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	
• at 230 V rated value	6 A
• at 400 V rated value	3 A
at 500 V rated value	2 A
operational current at DC-12	
• at 24 V rated value	10 A
• at 48 V rated value	6 A
 at 60 V rated value 	6 A
• at 110 V rated value	3 A
• at 125 V rated value	2 A
at 220 V rated value	1 A
at 600 V rated value	0.15 A
operational current at DC-13	
at 24 V rated value	6 A
• at 48 V rated value	2 A
• at 60 V rated value	2 A
• at 110 V rated value	1 A
• at 125 V rated value	0.9 A
• at 220 V rated value	0.3 A
at 600 V rated value	0.1 A
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	240 A
at 600 V rated value	242 A
yielded mechanical performance [hp]	
• for 3-phase AC motor	
— at 200/208 V rated value	75 hp
— at 220/230 V rated value	100 hp
— at 460/480 V rated value	200 hp
— at 575/600 V rated value	250 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
design of the fuse link	
 for short-circuit protection of the main circuit 	
 — with type of coordination 1 required 	gG: 500 A (690 V, 100 kA)
— with type of coordination 2 required	gG: 400 A (690 V, 100 kA), aM: 315 A (690 V, 50 kA), BS88: 400 A (415 V, 50 kA)
• for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)

mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method side-by-side mounting	Yes
fastening method	screw fixing
height	210 mm
width	145 mm
depth	202 mm
required spacing	
with side-by-side mounting	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
for grounded parts	
— forwards	20 mm
— upwards	10 mm
— upwards — at the side	10 mm
— downwards	10 mm
• for live parts	20
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
onnections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
for auxiliary and control circuit	spring-loaded terminals
width of connection bar	25 mm
thickness of connection bar	6 mm
diameter of holes	11 mm
number of holes	1
type of connectable conductor cross-sections	
• for main contacts	
— solid or stranded	2x (70 240 mm²)
 for AWG cables for main contacts 	2/0 500 kcmil
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid	2x (0.25 2.5 mm²)
— solid or stranded	2x (0,25 2,5 mm²)
finely stranded with core end processing	2x (0.25 1.5 mm²)
finely stranded without core end processing	2x (0.25 2.5 mm²)
for AWG cables for auxiliary contacts	2x (24 14)
AWG number as coded connectable conductor cross	24 14
section for auxiliary contacts	
afety related data	
product function	
mirror contact according to IEC 60947-4-1	Yes
positively driven operation according to IEC 60947-5-1	No
suitable for safety function	Yes
suitability for use safety-related switching OFF	Yes; safety-related disconnection via A1 A2
service life maximum	20 a
test wear-related service life necessary	Yes
· · · · · · · · · · · · · · · · · · ·	100
proportion of dangerous failures	40.94
with low demand rate according to SN 31920 with high degrand rate according to SN 31920	40 %
with high demand rate according to SN 31920	73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN 31920 ISO 13849	100 FIT

overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
Electrical Safety	
protection class IP on the front according to IEC 60529	IP00; IP20 with box terminal/cover
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover
Communication/ Protocol	
product function bus communication	No
Approvals Certificates	
Approvals Certificates	

General Product Approval









<u>KC</u>



EMV Functional Saftey Test Certificates other



Type Examination Certificate

Type Test Certificates/Test Report

Special Test Certificate



Confirmation

other Railway Environment

<u>Miscellaneous</u> <u>Miscellaneous</u> <u>Type Test Certificates/Test Report</u> <u>Special Test Certificates Environmental Conates/Test Report</u> <u>ate</u> <u>Firmations</u>

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

Information for data generation and storage

https://support.industry.siemens.com/cs/ww/en/view/109995012

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1065-2XB46-0LA2

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1065-2XB46-0LA2

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/3RT1065-2XB46-0LA2

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

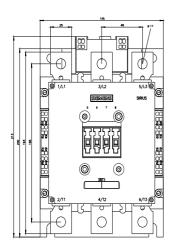
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1065-2XB46-0LA2&lang=en

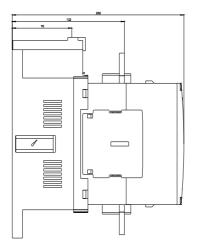
Characteristic: Tripping characteristics, I2t, Let-through current

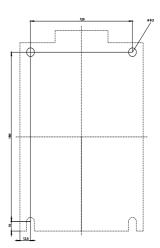
https://support.industry.siemens.com/cs/ww/en/ps/3RT1065-2XB46-0LA2/char

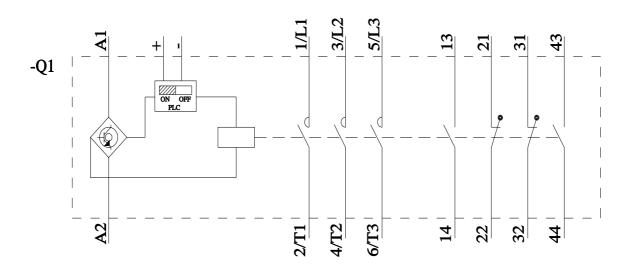
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1065-2XB46-0LA2&objecttype=14&gridview=view1









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